## United States Patent [19]

## Roncero

[11] Patent: Number:

4,843,801

[45] Date of Patent:

Jul. 4, 1989

[54]	METHODS AND APPARATUS FOR
(,	OPENING CLOSED CONTAINERS

[75]	Inventor:	Jose I. Roncero, Richmond, Va.
[73]	Assignee:	Philip Morris Incorporated, New. York, N.Y.

[21]	Appl.	No.::	198,497

[22]	Filed:	May 25,	1988
[22]	I IICU	17127.20,	1700

[51]	Int. Cl.4	B65B 43/26
		53/492; 53/381 R;
		414 241 11

## [56] References Cited U.S. PATENT DOCUMENTS

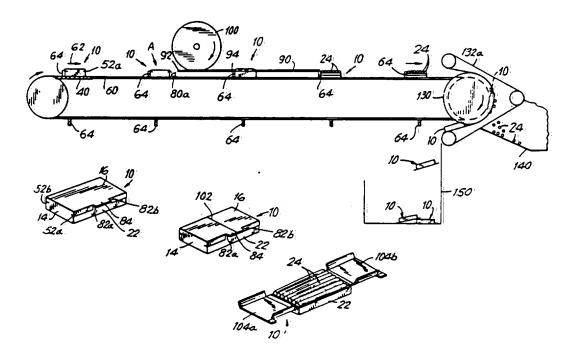
2,540,766	2/1951	Stilwell et al	414/414
3,263,843	8/1966	Grahn et al	414/412
3,386,320	6/1968	Pinkham et al.	414/412
3,889,442	6/1975	Grahn et al.	. 53/492
4,036,380	7/1977	Berry et all	414/412
4,124,969	11/1978	Peyton	4[4/411

Primary Examiner—John Sipos Assistant Examiner—Ann Tran Attorney, Agent, or Firm—Robert R. Jackson

[7] ABSTRACT

Methods and apparatus for opening containers such as cigarette packages without damaging the contents of the containers. If desired, the methods and apparatus may be extended to include emptying the containers after they have been opened.

23 Claims, 10 Drawing Sheets



2021343051